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ABSTRACT

The problem of how best to plan for Arizona's future is approached from two different angles. First, an outline is presented of 10 key assumptions regarding the most likely scenario for the United States in the 1980's. Assumptions are that there will be an unstable international environment but no nuclear war; fiscal conservatism in all areas of government spending except defense; a 100% increase in oil prices; almost double digit inflation; a revival of capital investment; major technological advances in electronics, energy, and biotechnology; low growth in the labor force; continuation of fertility rates at or below replacement levels; continued basic value shifts; and significant increase in citizen participation in decision making. The second approach is to discuss three dimensions which are perceived to be of critical importance to Arizona's future--rapid movement toward a postindustrial society (i.e. from a predominantly goods-producing society to a services-producing one), increase in the participatory nature of society, and recognition that planning for Arizona must be tailored to specific needs and must consider possibilities, probabilities, and preferences. The conclusion is that Arizona policy planners will help shape the best future for Arizona if they take into consideration the emerging four Ps--postindustrialization, participation, planning, and people-oriented society. (DB)

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PLANNING FOR ARIZONA'S FUTURE

by

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President

Presented at

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INTRODUCTION

Fashionable as it has become to forecast to the year 2000 and even beyond, in our hearts we know we can't be very sure about 1985 or 1984 or even next year. "If you must forecast, forecast often" should be among the most important aphorisms to which any respectable futurist subscribes.

Without dwelling excessively on the basic premises that underlie any successful long-range planning, three are so fundamental that they bear repeating at frequent intervals:

- The future is not predictable, due to: fragmentary data on the past and present; incomplete understanding of the processes of change; and our inability to anticipate the direction and influence of individual choices.
- Alternative futures exist: in other words, the future is not predetermined, not fixed, not inevitable.
- Future outcomes can be influenced by individual choices: whether the influence of choice is slight or great, no guarantee can be made that its exercise will produce desired outcomes.

The best analogy for planning of any kind is that of the chess player. Before making a move, each player tries to look as many moves ahead as possible, knowing full well that the "play of the game" is unlikely to develop in precisely that particular sequence. After his or her opponent counters with a move, the process is repeated once again. In general, all other things being equal, the successful player will be the one who can look ahead the greater number of moves. Consider how futile the goal of prediction is for any human activity when it is impossible even for a relatively constrained game such as chess.

OBJECTIVES

I would like to approach the problem of thinking about Arizona's future at two different levels. The first level is more macro and context setting: it outlines 10 key assumptions that underlie what I consider to be the most likely scenario for the U.S. in the decade of the '80s. The second is more specific to Arizona: it makes an intuitive leap to three key dimensions that I perceive to be critically important to Arizona's future.

10 KEY ASSUMPTIONS FOR THE U.S. IN THE '80s

Any useful long-range planning for Arizona must be cognizant of the larger national and world environment in which it is likely to exist. An attempt is made to summarize the key features of the U.S. in the next decade by outlining 10 basic premises that underlie the most likely scenario. Each premise has been selected to be internally consistent with each other member of the set.

1. A very unstable international environment (military confrontation, scarce resources, economic competition), but no nuclear war.
2. Defense spending grows faster than GNP, but fiscal conservatism dominates government nondefense spending.
3. World (and U.S.) oil price doubles in real terms, but U.S. energy dependence on foreign sources remains high.
4. Inflation rates remain high--just below double digit--as basic problems (capital investment, productivity, energy) yield slowly.
5. Capital investment revives (average real growth rate of 4 percent per year) to provide real annual GNP growth rates averaging 2.5 percent per year.
6. Major technological advances in electronics, energy, biotechnology.
7. Labor force growth at lowest levels in two decades, encouraging capital substitution for labor--particularly in nonmanufacturing sectors; workplace emerges as major focus of ferment and change (expectations, technology, productivity).
8. Fertility rates remain at or below replacement levels, but U.S. population continues to grow at slightly below 1 percent per year.

9. Basic value shifts continue, spurred by resource and environmental concerns, institutional distrust, and revised expectations.

10. Governance (increasing participation without process hang-up) as one of the, if not the, key issues in both private and public sectors; "back five" (years of decade) better than "front five" (years of decade) if we begin to get our act together.

It would be both interesting and useful to trace the likely impacts of these premises, singly and jointly, on Arizona. In some instances--such as on forecasted world oil price--the impact on Arizona is direct and fairly clear. In other instances--such as average U.S. population growth--the total impact on Arizona must be modified by the very substantial legal and illegal migration that is expected to change the national average (about 1 percent per year) considerably (to perhaps 3 percent per year). In still other instances--the governance dilemma--both the U.S. and Arizona are very likely to be faced with increasing fragmentation of political and decision-making processes, with Arizona's vulnerability perhaps being even greater here than for the U.S. Rather than pursue this approach further, I have elected to shift gears somewhat and to jump more directly to what I perceive are three critical dimensions shaping Arizona's future.

THREE CRITICAL DIMENSIONS SHAPING ARIZONA IN THE '80s

Moving As Rapidly As Possible Toward A Postindustrial Society

By postindustrial--as I will use it--I mean the movement from a predominantly goods-producing society to a services-producing one, with information processing and services (predominantly human and professional) as the centerpiece of that society.

Most of you are probably aware of the extent to which information processing, information services, and information handling activities already have become the dominant part of the U.S. economy. If the U.S. economy is divided and analyzed not in terms of the standard designations--agriculture, manufacturing, services, etc.--but in terms of distinguishing those activities that are predominantly information related from those that are not, we find that at present at least 50 percent is represented by the information sector. Just to help you think in these terms, consider some of the following categories that are included within this definition: production of information machines of all kinds (typewriters, Xerox machines, computers); electric/electronic

communication services (radio, TV, telephone); print media; advertising; education; financial, accounting, and legal services; research and development; government services; and so forth.

Now I'm not going to try to convince you that we are headed for a "gee whiz" world where computers and communications will take over most of our chores, substitute for much of our travel, replace teachers and professors, do medical diagnoses, or return us to a basically cottage industry economy. But I will hold out the prospect that over the next two decades and beyond, changes in the ways we generate, process, and disseminate information of all kinds will have major transformational--not just incremental--effects on society and most likely Arizona.

I make this claim even though I am mindful that society's track record in assessing the future impact of any new technology has been generally characterized by the following:

- We overestimate changes that will take place in one year, but we underestimate changes that will take place in 10 years.
- We overestimate the rate of personal, institutional, and societal changes, but we underestimate the rate of technological change.
- And we tend to view the impact of technology in substitutional terms (the telephone as a substitute for mail, the automobile as a substitute for the horse and buggy, the Xerox machine as a substitute for carbon copies) and fail miserably in perceiving the truly transformational changes that can be created.

Why am I so bullish about prospects for the U.S. (and for Arizona) in the long run? Let me enumerate some reasons. The first is that we often fail to realize that information is a truly unique resource. For example, it's the only resource that's in surplus and the only one that does not become depleted with usage (in fact, it can become more valuable). The biggest problem with this unique resource is selectivity (overcoming information overload).

The other set of reasons relates to the truly amazing rate of change that has taken place in the past 30 years and the prospects of its continuing in the next 20. Few of us realize that every three or four years for the last 20 years the electronic hardware portion of this information technology has been characterized by the following: costs have decreased by a factor of three; size has decreased by a factor of three; and speed has increased at least by a factor of three and sometimes by as much as a factor

of 10. What a unique technology that results in "more for less" and with no tradeoffs required!

In addition, in the area of communication transmission, we are on the threshold of a remarkable revolution. For example, by the end of this decade well over 50 percent of U.S. homes will be connected by cable, providing an interactive bandwidth capability equal to 50 to 100 TV channels. Also, the increasing use of optical fibers will have greatly expanded communications capability since each hair-like fiber is capable of carrying five or six TV channels or 4,000 to 5,000 voice channels. And finally, the use of satellites, each capable of transmitting 10 to 15 TV channels or 10,000 voice channels, will have erased distance as a factor in transmission and make possible the direct transmission to residential or business establishments.

But this is only the beginning. The new technologies are responsible for the breaking down or redefinition of a number of traditional boundaries, such as: between the computer industry and the communications industry; between print and electronic media; between broadcast and interactive modes of communication; between activities that take place in the home and at work; and between activities that formerly were sharply divided between education and work or leisure and work. On a societal level, I would be hard pressed to identify any activity that will not ultimately be affected, slightly or greatly, by these new technologies. On an individual level, we will feel changes from the use of personal computers, from ubiquitous, invisible servants (similar to fractional horsepower motors in homes today), from more visible, intelligent assistants helping with a variety of fairly routine intellectual chores both at work or at home, and from greater facilitation of group communication of all kinds.

So the question is not really if we'll be affected, but how and how long it will take. The importance to the U.S., which will almost certainly retain its high-technology lead over others--including the Japanese--cannot be overstated. But the meaning to Arizona can also be as important, if not critical. The reason is that a move to an increasingly postindustrial society seems to be--at least on the surface--exquisitely matched to Arizona's future development and needs--both as a provider (manufacturer) of information devices and as a large potential user of information services. Let me elaborate a bit on this point.

As a provider, this technology can create jobs that appear to match very well the expected reservoir of human skills: at the very high technical skill end, the capabilities needed for research and development, for programming, for high-technology

innovation, and at the entry-level skill end, positions for staffing manufacturing operations. As a user, information-related activities have the following considerable merits: they are generally nonpolluting; they provide the ability to decentralize population growth; they can be an important vehicle for combatting isolation; they can cut down on excessive dependence on the automobile for transportation; and they can cut back on resource use more generally (perhaps even for water usage). But perhaps most importantly, they have the potential for very high, long-term growth for both the U.S. and Arizona.

Learning To Live In An Increasingly Participating Society

Let me start with a definition again. By a participating society, I mean one in which individuals and groups want increasingly to act directly to influence decisions affecting them. At the Institute we have recently studied some of the roots of these movements as they've developed in the last two decades in order to provide a basis for forecasting likely future directions. Even though we cannot be certain or definitive yet, I would like to share with you some of our preliminary findings.

Increasing participation has been heavily influenced in the last decade or two by the following principal factors: increasing education and affluence which have sharpened our general sense of awareness about events and developments going on around us; increasing disillusionment with the performance of a variety of societal institutions, with the result that mechanisms have been sought for bypassing such institutions; and increasing recognition of the physical and social limits to growth, spurring both individuals and groups to be more directly involved in protecting and pursuing vital interests. The result has been increasing participation across many sectors of society. It hasn't been "just the kids" engaged in civil rights or war on poverty or resistance to Vietnam. Upper-middle-class groups, the top 5 percent to 8 percent of the population with respect to education and income levels, have been among the primary actors. And the list of activities and movements is familiar to most of you: consumers, environmentalists, employees (largely outside union structures), shareholders, and an enormous variety of so-called one-issue groups, usually covering both sides of an issue, whether it is guns and gun control, abortion and antiabortion, ERA and anti-ERA, nuclear and antinuclear, growth and antigrowth, and so forth.

The first phase of this movement appears to be largely over, as measured by a "plateauing out" of memberships, publications, and funding levels. But what has been

left is a legacy of important institutional innovations and mechanisms that will almost certainly be used, most likely in other contexts: grass-roots lobbying; computer-assisted mailing; public interest law firms; public interest lobbying groups; special interest groups; and rules of standing that permit access of individuals and groups to hearings and administrative procedures of all kinds. Among some of the more important after-effects of this movement are also the following: the decline of political parties; the increasing fragmentation of U.S. society; and a decentralization of decision making in both public and private sectors.

It would be a fatal mistake to suppose that the "peaking out" that has taken place in the last few years signals a disappearance or a diminution of such movements. It is true that the directions of these activities will almost certainly change. Among the more interesting possibilities are the following: an increasing focus on local issues such as utility rates, environmental wastes, jobs, housing; the emergence of mass activism not restricted to the relatively elite groups which have fueled movements in the past; the emergence of new coalitions among groups such as those represented by Ralph Nader and Allstate on air bags, or labor and consumers on inflation, or even the corporation and specific special interest groups on issues that in the past have divided them; and the use of emerging technologies such as those outlined in the previous section to target messages to selected audiences much more effectively and efficiently than could ever have been done in the past.

Why are such movements and likely directions they may take as critically important to Arizona as they are for the country as a whole? Among the more important reasons are the following:

- the enormous diversity of groups "wanting in" to decision-making processes within the state, including urban residents, farmers, Hispanics, Indians, growth advocates, environmentalists, etc.
- the abnormally high proportion of well-educated, professional, affluent elites in the state
- the absence of any long history of consensus forming
- the approach of a critical period in Arizona's history when major developmental directions will have to be either more carefully selected than in the past or will be allowed to run their own course

Under these circumstances, divisiveness, or the inability to reach consensus on anything of consequence, will result in a hang-up and stalemate, and can very likely produce a drift toward a future that nobody wants. This is truly one of the basic--but perhaps not yet fully recognized--problems for the U.S. as it is for Arizona. The first requirement is to recognize it, and then to work hard and long on ways to overcome the potential divisiveness on a case-by-case basis. There are no easy answers and no quick solutions. However, high priorities should be placed on experiments--a variety of consensus-forming, bargaining, negotiating, conflict resolution techniques--that ultimately may yield mechanisms for coping with what may be one of the true stumbling blocks to any genuine, widely supported planning effort shaping the future of the state.

Shaping Planning To Meet Arizona's Needs

Let me first try to summarize the essentials of the perennial debate on the role of planning. The people in favor of planning will usually begin by noting that the market has certain built-in imperfections in allocating societal resources and that external adjustments (through some kind of planning) are necessary for remedying those imperfections. Those who doubt the utility of planning will counter that our knowledge is too limited and our understanding too fragmentary to improve on market mechanisms, imperfect as they may be. "But," the planners will say, "we need consensus in order to make any progress with our problems." "Nonsense," will be the retort. "We need diversity. And besides, consensus isn't possible in the kind of society in which we live." "But survival is at stake, for which long-range planning can be an invaluable aid." "True enough, perhaps, but planning has never worked before on a national, or even state, level, so why should we expect it to do so now?" These arguments, pro and con, mirror somewhat the rationalistic versus intuitive (or left brain versus right brain, or yin and yang) tug of war that takes place within us as we try to understand more clearly the complex environment with which we're required to cope. But the basic question is not <u>if</u> we should have any planning, but rather <u>what kind</u>, <u>how much</u>, and <u>what the focus</u> of that planning should be.

Planning can take many forms, but the basic questions--whether approached by the engineer, the systems analyst, the political or social scientist, or the futurist--are remarkably alike. They are the following three:

- What are the possibilities (and choices)?
- What do we know (state of knowledge), expressed in probabilities if we can?
- What do we prefer?

The process is iterative; that is, we need to make many passes over a very long period of time and must include room for visionary and speculative as well as rationalistic and systematic inputs. But perhaps most important of all, it must also include a realistic understanding of the limits of what can be done and must be very pragmatic.

I'm not going to dwell at length here on the countless, mindless planning exercises that go on in both the public and private sectors. But I would encourage each of you to review again in your own mind some of the major shortcomings you must avoid:

1. Dwelling excessively on overall goals for the state of Arizona without recognizing at the outset the tradeoffs among this initial set of goals that must ultimately be faced. Failure here results in disillusionment and disappointment of the participants because the process never gets beyond the generation of a so-called "wish list."

2. The failure to identify the limits to control or decision making. This is crucial for Arizona since some (or even much) control rests with public and private sector parties residing outside the state.

3. Failure to include and get real participation of all important stakeholders. This is particularly vital for Arizona for reasons outlined in an earlier section dealing with the participating society.

4. Failure to focus on a few (perhaps even just one or two) issues that can be crucial in presenting opportunities (like opting to move full bore toward a postindustrial society) or confronting critical problems (such as overcoming the major impediments to long-range planning). The result can be that limited resources are squandered with nothing very tangible to show.

5. The failure to identify a few pragmatic issues for testing and trying out new approaches that stand a high chance for success in the relatively short run. Otherwise, patience runs out, and credibility is not established early.

6. Failure to recognize that real progress may not come until basic personal changes (such as value shifts) and institutional changes (such as a redivision of responsibilities among federal, state, regional, and local communities) are made.

SUMMING UP

How can any of this possibly help Arizona in shaping its future? If I were pressed for advice, armed with my current state of very limited understanding, I would be presumptuous enough to recommend consideration of the following:

> Establish three groups (or efforts or task forces) focusing on: (1) exploration (feasibility, requirements, consequences, etc.) of a pivotal opportunity, like making a major commitment to the transformational aspects of a postindustrial society; (2) examination of practical alternatives for overcoming the potential divisiveness of the increasing participation of Arizona's principal stakeholders; (3) shaping the planning process to fit the peculiar needs of Arizona so that you may be able to steer between the Charybdis of overrationalistic and reductionist approaches and the Scylla of ad hoc, unstructured, backward-looking approaches to issues that can yield pragmatic, continuous progress toward an Arizona of which we can all be proud.

I can't resist, in closing, one final observation about striking a healthy balance between the familiar four Cs that have characterized Arizona's development in the past--namely, copper, cattle, cotton, and climate--toward the emerging four Ps--postindustrial, participative, planning, and people-oriented society where Arizona's citizens are the ultimate benefactors of whatever transpires here now and elsewhere later.